

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

MAILED

SEP 19 1996

Ex parte JERRY F. NEGROTTI

PAT.&TM. OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

Appeal No. 95-1762
Application 07/901,382¹

ON BRIEF

Before THOMAS, CARDILLO, and BARRETT, Administrative Patent Judges.

BARRETT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the final rejection of claims 1-12.

The disclosed invention is directed to a method and apparatus for joining a metal drive band, recited broadly in

¹ Application for patent filed June 19, 1992, entitled "Vibration Dampening Method and Apparatus for Band Driven Precision Motion Systems."

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some claims as a tensioned driving element, to a driven element using energy absorbing materials to damp band vibration energy. As illustrated in figure 3, band 12 (the tensioned driving element) is connected to a band clamp 32. The driven element 18 is connected to a keel clamp 30. Vibration damping grommets 52 and 54 are mounted in bores of the band clamp 32 and the keel clamp 30 and compressed by fastener 44 and nut 46. The grommets can be compressed initially by tightening the fastener and nut, and then further compressed by tensioning the tensioned band.

Representative claims 1 and 8 are reproduced below.

1. A vibration damping clamping apparatus for use in mechanically connecting a tensioned driving element to a driven element; said clamping apparatus comprising:

a. means for mechanical connection to said driven element;

b. means for mechanical connection to said driving element; and,

c. compressed vibration damping means mechanically connected to said means for mechanical connection to said driven element and to said means for mechanical connection to said driving element.

8. A method for damping vibrations of a tensioned, driving element mechanically connected to a driven element through a compressible vibration isolator, said method comprising the steps of:

1. compressing said compressible, vibration isolator before tensioning said tensioned driving element; and,

2. further compressing said compressible, vibration isolator while tensioning said tensioned driving element.

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The examiner relies on the following references:

Silverberg (Silverberg '651)	4,589,651	May 20, 1986
Silverberg (Silverberg '652)	4,589,652	May 20, 1986
Silverberg (Silverberg '138)	4,618,138	October 21, 1986
Dec	5,073,148	December 17, 1991
Gomoll et al. (Gomoll)	5,098,209	March 24, 1992
Sheffield et al. (Sheffield)	5,207,308	May 4, 1993
		(filed May 18, 1992)

Claims 1, 2, 8, and 9 stand rejected under 35 U.S.C.

§ 102(a) as being anticipated by Gomoll.

Claims 1, 2, 8, and 9 stand rejected under 35 U.S.C.

§ 102(b) as being anticipated by Silverberg ('138 or '651 or '652). The examiner finds that "[t]he patents to Silverberg show in Figure 2 the driven element, driving element, and vibration damping means (spring) as recited in the claims" (Examiner's Answer, page 4).

Claims 3-7 and 10-12² stand rejected under 35 U.S.C. § 103 as being unpatentable over Silverberg ('138 or '651 or '652) or Gomoll in view of Sheffield and Dec. This new ground of rejection was added in the Examiner's Answer.

We refer to the Examiner's Answer (Paper No. 11) and the Supplemental Examiner's Answer (Paper No. 16) for a statement of the examiner's position and to the Brief (Paper No. 10) and Reply Brief (Paper No. 12) for a statement of appellant's position.

² The Examiner's Answer inadvertently specifies claims 3-7 and 10-13.

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OPINION

We have fully considered the respective positions of the examiner and appellant and the teachings of the references. Based on this review, we conclude that the examiner has failed to establish prima facie cases of anticipation and obviousness. Accordingly, the examiner's decision is reversed.

Initially, we note that Silverberg '138, Silverberg '651, and Silverberg '652 all show the identical figures 1 and 2 relied upon by the examiner. Therefore, we shall refer to the three references collectively as Silverberg.

As best understood, the clearest statement of the examiner's position regarding Silverberg is as follows (Supp. Examiner's Answer, page 2):

Silverberg shows in figure 1 a belt drive device 10 comprising driving element 34, driven elements 40 and belts. Silverberg shows in figure 2 the clamping apparatus 40-43 comprising a spring for vibration damping and a shaft 43 for adjusting the belt tension.

(See also Examiner's Answer, page 6, and Supp. Examiner's Answer, page 4.) Appellant argues throughout the Brief and Reply Brief that Silverberg does not disclose the claimed subject matter of claim 1 and that the examiner has failed to identify the correspondence between the elements of claim 1 and Silverberg. We agree with appellant's arguments.

It is manifest that Silverberg does not disclose the same vibration damping clamping structure as disclosed by

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appellant. However, it is often the case that claims, given their broadest reasonable interpretation, read on dissimilar subject matter in a manner that was not intended by the applicant. "[D]uring patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed." In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989). When the examiner relies on an unusual claim interpretation it is incumbent to explain the interpretation so that others can understand. In this case, we cannot tell with certainty whether the examiner is trying to interpret claim 1 broadly, or whether the examiner is confused and somehow assumes that claim 1 is directed to the band tensioning assembly 20 in figure 1 instead of the vibration damping clamping assembly in figures 2 and 3. Certainly the prior art applied resembles the band tensioning assembly more closely than the vibration damping clamping assembly and the examiner's characterization of the invention as a "belt tensioner" (Examiner's Answer, page 10) creates some doubt. We assume the examiner is trying to interpret claim 1 broadly, but do not see how claim 1 can be reasonably be interpreted to read on Silverberg or Gomoll.

Figure 1 of Silverberg discloses a plurality of moving transport belts 30. The belts are mounted at one end on a common driven roller 34. As shown in figure 2, the opposite

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end of each belt is independently supported on independent pivotal roller 40. Each of these rollers 40 is freely rotatable. Each roller 40 is rotatably mounted between the extending arms of a yoke 42. Each yoke has a central mounting shaft 43, spring-loading it outwardly, to independently tension each belt 30. See column 11, lines 38-62. The arrangement in figure 2 of Silverberg is very similar to the belt tensioning arrangement 20 in appellant's figure 1, which is not what is being claimed.

The examiner interprets the driven roller 34 in Silverberg as the claimed "driving element," the belt 30 and roller 40 as the claimed "driven element," and the roller 40, yoke 42, shaft 43, and spring (unnumbered) to be the claimed "clamping apparatus." We find it impossible to make this interpretation fit the language of claim 1. Claim 1 recites a "tensioned driving element" in the preamble; the only tensioned element in Silverberg is the belt 30, so the belt 30 must be a driving element not a driven element. Belt 30 drives roller 40 so roller 40 can be called a driven element. Roller 40 cannot be both a driven element and part of the clamping apparatus as found by the examiner, so it is assumed to be the driven element for consistency. The problem is that the examiner does not explain what structure in Silverberg meets the limitations of two "means for mechanical connection" and "means

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mechanically connected" between the two means for mechanical connection as recited. The term "connection" is defined as "the state of being connected" and "connected" is defined as "joined or linked together." Webster's New Collegiate Dictionary (G.&C. Merriam Co. 1977). It can be said that the yoke 42 (part of the damping means under the examiner's interpretation) is mechanically connected to the roller axle (a means for connection to the driven element) which is mechanically connected to the roller 40 (the driven element under the examiner's interpretation). A mechanical connection does not require a rigid, non-rotating connection. However, the yoke/spring assembly (the damping means under the examiner's interpretation) is not mechanically connected to the driving element of the belt 30. Claim 1 requires the damping means to be mechanically connected between the driving element and the driving element, and there is no structure in Silverberg that would meet this limitation. While, in some vague sense, everything is "connected" to everything else in Silverberg, this kind of nebulous interpretation does not fairly comport with a reasonable reading of appellant's claim in light of the disclosure. Accordingly, the rejection of claims 1 and 2 over Silverberg must be reversed.

The anticipation rejection over Gomoll has similar problems to the rejection over Silverberg. Gomoll discloses a

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structure for adjusting the tension of a cable for a print head carriage. Gomoll shows a print head carriage 1 rigidly connected to a tensioned driving cable 9, but this is not the structure relied upon by the examiner. The examiner interprets the drum 8 in Gomoll as the claimed "driving element," the deflection pulley 12 as the claimed "driven element," and the spring 21, adjusting screw 24, and housing 26 (hereinafter "assembly 21/24/26") as the claimed "damping means" (Supp. Examiner's Answer, page 5). Claim 1 recites a "tensioned driving element" in the preamble; the only tensioned element in Gomoll is the cable 9 which must be the driving element, not drum 8. The examiner points in Gomoll to "the means 4 for mechanical connection to the driving [sic, driven] element 12, means 4, 5 for mechanical connection to said driving element 8" (Examiner's Answer, page 9). Drum 8 is not a "tensioned driving element" and so the examiner's interpretation does not fit. Assuming, arguendo, that the examiner's interpretation is feasible, the examiner has not shown how the assembly 21/24/26 is mechanically connected between the means for connection to the driving element and the means for connection to the driving element. Again, the claims must be read in a reasonable manner in light of the specification. There is no structure in Gomoll that fairly meets the limitation of claim 1. Accordingly, the rejection of claims 1 and 2 over Gomoll is reversed.

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As to the anticipation rejection of claims 8 and 9 over Silverberg or Gomoll, we note that claim 8 contains the language of a "tensioned, driving element mechanically connected to a driven element through a compressible vibration isolator" (preamble), the same arrangement of parts we found not disclosed in Silverberg or Gomoll. Because the structure on which the method is performed is not found in Silverberg or Gomoll, it is manifest that Silverberg does not disclose the method of compressing the vibration isolator. In addition, we see no suggestion, express or implied, of performing a two-step compression in either reference. The rejections of claims 8 and 9 over Silverberg or Gomoll are reversed.

The examiner has applied Sheffield and Dec in making the obviousness rejection of claims 3-7 and 10-12. As best understood, the examiner finds (Examiner's Answer, page 5) that the differences between claims 3-7 and 10-12 are:

(1) precompressing the "vibration damping means" of claim 1 or the "vibration isolator" of claims 10 and 12; and (2) the vibration damping means of claim 1 includes compressed members which are grommets as recited in dependent claim 6. The examiner finds (Examiner's Answer, page 5) that Sheffield teaches precompressing tension adjusting means 8 and 22 and that Dec teaches a vibration damping washer, which the examiner considers to be a grommet (Examiner's Answer, page 10). The

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examiner concludes that "it would have been obvious to provide Silverberg or Gomoll et al with the pre-compressing tension adjustment as taught by Sheffield et al as modified by Dec's vibration damping washer" (Examiner's Answer, page 6).

As found, supra, neither Silverberg nor Gomoll disclose a "compressed vibration damping means" as recited in claim 1 and dependent claim 3. Further, neither Silverberg nor Gomoll disclose "a tensioned, driving element mechanically connected to a driven element through a compressible vibration isolator" as recited in the preamble of claim 8; therefore, it is clear that neither reference discloses the limitation in paragraph a of claim 12, which is identical except for a comma, or the more specific limitation of "a tensioned, flat metal belt in a friction driven, closed-loop servo system having a transport carriage mechanically connected to a portion of the tensioned flat metal belt through a compressible vibration isolator" in the preamble of claim 10. There are more differences between the claimed subject matter of claims 3, 10, and 12 and either Silverberg or Gomoll than the examiner has accounted for.

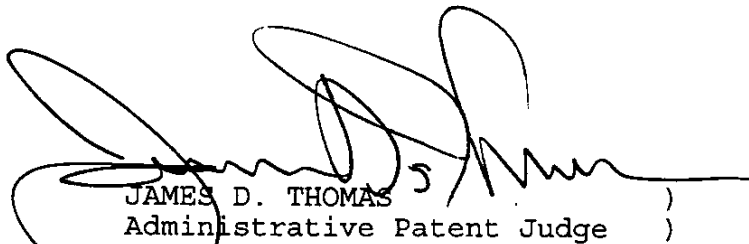
The references to Sheffield and Dec do not fill in the missing gaps. Sheffield discloses a belt tensioner which is redundant to Silverberg and Gomoll. The structure at issue is a vibration isolator mounted between a tensioned element or belt and a driven element, not a belt tensioner. Thus, it does

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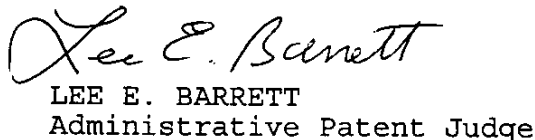
not matter whether the spring in Sheffield is pretensioned because the spring is not a vibration isolator structure as claimed. Dec discloses a pad of friction material 66 in figure 4, which dampens movement of the pivot arm of a belt tensioner, but the pad is not a vibration isolator between a tensioned element or belt. Because Sheffield and Dec do not cure the deficiencies in Silverberg and Gomoll as to the basic structure of a vibration isolator mounted between a tensioned element and a driven element, the examiner has failed to establish a prima facie case of obviousness and the rejection of claims 3-7 and 10-12 must be reversed.

The rejections of claims 1-12 are reversed.

REVERSED


JAMES D. THOMAS
Administrative Patent Judge


RAYMOND F. CARDILLO, JR.
Administrative Patent Judge


LEE E. BARRETT
Administrative Patent Judge

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